REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 17-37 are currently pending in the present application. In the outstanding Office Action, Claims 17-22, 30-31, and 36 were rejected under 35 U.S.C. § 103(a) as unpatentable over Caullet, et al. (EP 0266229, hereinafter "Caullet") in view of Crumley, et al. (U.S. Pat. No. 4,429,301, hereinafter "Crumley"); and Claims 23-29, 32-35, and 37 were rejected under 35 U.S.C. § 103(a) as unpatentable over Caullet in view of Crumley and further in view of Eventoff (U.S. Pat. No. 4,810,992, hereinafter "Eventoff").

By way of review, Claim 17 defines a data input device, comprising:

> plural keys, said keys being arranged in at least two rows;
> a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys, each unidirectional position detector including a first input connection, a second input connection, and an output connection; wherein
> the output connections of the unidirectional position detectors are connected at various locations to a first ohmic resistor, and
> the first input connections are connected to a first terminal of the data input device and the second input connections are connected to a second terminal of the data input device.

The Office Action concedes on page 3 that Caullet fails to disclose "a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys, each unidirectional position detector including a first input connection, a second input connection, and an output connection," as recited in Claim 17, and relies on Crumley to cure this deficiency in Caullet. Applicants respectfully traverse the rejection.

Crumley describes a plurality of switching elements 23 (which are formed by the intersections of vertical crossbar conductors 13 and horizontal crossbar conductors 19)

arranged in a typical matrix arrangement.[1] Indeed, the matrix in Crumley is an example of a conventional matrix described in the "Introduction" section of Applicants' specification.

That is, each of the switchable connections or switches 23 in the Crumley matrix arrangement are connected between one vertical crossbar conductor and one horizontal crossbar conductor. On the other hand, each vertical crossbar conductor 13 is used to read out the resistance value of all the switches 23 formed by the intersections of the vertical crossbar conductor 13 with the different horizontal crossbar conductors 19. Similarly, each horizontal crossbar conductor 19 is used to read out the resistance value of all the switches 23 formed by the intersections of the horizontal crossbar conductor 19 with the different vertical crossbar conductors 13.

Thus, Crumley is directed to a device in which the different elements of the sensor cooperate together in order to allow a combined X-Y detection of the position of an activation of the sensor. Indeed, Crumley is silent regarding a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys, each unidirectional position detector including a first input connection, a second input connection, and an output connection.

Therefore, Crumley does not disclose or suggest "a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys; wherein the output connections of the unidirectional position detectors are connected at various locations to a first ohmic resistor, and the first input connections are connected to a first terminal of the data input device and the second input connections are connected to a second terminal of the data input device," as recited in Claim 17. Hence, Crumley does not cure the deficiency in Caullet.

[1] See Crumley, column 2, lines 1-4.

Moreover, *assuming arguendo* that Crumley could provide the above-identified features that Caullet fails to disclose, Applicants respectfully submit that the Office's proposed modification of Caullet would render Caullet unsatisfactory for its intended purpose. Caullet is directed to simplifying the readout of a keyboard, and, specifically, to reducing the number of connections of the keyboard to ***three***.[2] Crumley is also directed to simplifying the readout of a switch array sensor. This means that both cited references address the technical problem of simplifying the readout of sensor arrays or keyboards and accordingly propose alternative solutions to this specific problem. However, in stark contrast to Caullet, Crumley proposes a solution to the common problem, which requires a minimum of ***four*** connections of the sensor to the evaluation circuit.

Thus, the Office's proposed modification to Caullet would render Caullet unsatisfactory for its intended purpose. Under M.P.E.P. § 2143.01 V, this is also an indicia of non-obviousness. Moreover, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). For these reasons alone, a 35 U.S.C. § 103(a) rejection of the present claims would be improper.

Therefore, for all of the above reasons, Caullet and Crumley, either separately or combined, do not disclose or suggest "a plurality of unidirectional position detectors, each unidirectional position detector being associated with a respective row of keys, each unidirectional position detector including a first input connection, a second input connection, and an output connection; wherein the output connections of the unidirectional position detectors are connected at various locations to a first ohmic resistor, and the first input connections are connected to a first terminal of the data input device and the second input

[2] See Caullet, page 1, lines 14-18, and page 1, line 15.

connections are connected to a second terminal of the data input device," as recited in Claim 17.

Accordingly, independent Claim 17 is submitted to patentably define over Caullet and Crumley. Dependent Claims 18-22, 30-31, and 36 are submitted to patentably define over the applied references by virtue of at least their dependency on Claim 17.

With regard to the rejection of Claims 23-29, 32-35, and 37 as unpatentable over Caullet in view of Crumley and in further view of Eventoff, it is noted that Claims 23-29, 32-35, and 37 are dependent from Claim 17, and thus are believed to be patentable for at least the reasons discussed above. Further, it is respectfully submitted that Eventoff does not cure any of the above-noted deficiencies of Caullet and Crumley. Accordingly, it is respectfully submitted that Claims 23-29, 32-35, and 37 are patentable over Caullet, Crumley, and Eventoff.

Accordingly, Applicants respectfully request that the rejection of under 35 U.S.C. § 103 be withdrawn.

Consequently, in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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